

Koguchi and further in view of Fujimura (U.S.P. 5,397,763). All references are previously of record. Applicant submits the following arguments in traversal of the prior art rejections.

Applicant's invention relates to an image recording method using a toner sheet and image receiving paper. Detailed descriptions of the background and exemplary embodiment of the invention are set forth in the Brief on Appeal. Similarly, Takanashi, Fujimura and Koguchi are described in the Brief on Appeal. Applicant refers the Examiner to these descriptions.

Further to these descriptions, Applicant would note that an exemplary feature of the invention permits formation of images without a separate transfer sheet. By contrast, Koguchi includes a first image receiving and transfer sheet 12 which is printed with donor materials. Subsequently, the image formed on sheet 12 must be separately transferred to a recording sheet 14. Additionally, referring to Fig 3A of Koguchi, the secondary reference provides lamination of an image receiving layer 12 and a donor layer 10. The donor and image receiving layer are laminated and held together by tackiness of an adhesive formed on the image receiving sheet 12 layer 16. See Col. 19, lines 40-45, and also by heat and pressure. Col. 19, lines 60-65. The image receiving sheet 16 is also peelable for transfer of the image to the final receiving sheet 14. Referring to Fig. 3d, the image receiving layer is peeled from color sheet 12 for transfer. The heated area of colorant layer 22 becomes lower in adhesive force to heat converting layer 19 in comparison to the image receiving layer. Therefore, after heat recording, the thin colorant film (less than 5 micrometers) is easily transferred first to the image receiving layer and then again to the image receiving sheet 14. The thin configuration of the color film reduces the amount of heat needed to record an image.

The Examiner now contends that Takanashi and Koguchi, in combination teach each feature of independent claim 1. Applicant would argue that the rejection is not supportable for at least the following reasons.

Takahashi and Koguchi relate to different forms of image transfer. Takanashi describes an image receiving sheet formed with a binder. The binder aids in keeping the ink on the image receiving sheet. Col. 1, lines 24-46. This does not allow for any subsequent image transfer. By contrast, in Koguchi, the image receiving sheet includes a releasable material such that the recorded image can be released onto a final recording medium. Thus, it is clear that the layered recording materials in Takanashi have different mechanical and chemical properties that would obviate their combination with each other.

In Koguchi, the colorant sheet bonds to an underlying image transfer sheet by a level of adhesive property. This permits the colorant sheets to be delivered in cut sheet form and laminated onto the image receiving layer. By contrast, the contact of color in Takahashi is provided under tension as the colorant material is applied from a continuous roll form. There is no mechanism to maintain the necessary contact between the donor of cut sheet form and the image receiving layer in the device of Takanashi.

As a related matter, the Examiner contends that Koguchi teaches a recording drum of vacuum type. There is no such disclosure in Koguchi. Rather, in Koguchi, a mechanical clamp is used to secure an image receiving sheet to the drum. Col. 22. lines 8-19. The Examiner further contends that it would be obvious to attach the recording medium to the drum by way of

suction. However, as previously argued, the construction of Takanashi's image forming layer would not permit mounting of subsequent materials if a vacuum method were used.

The Examiner contends that the use of a cut sheet form would obviate the disadvantages of a continuous roll. However, the Examiner has no offered disadvantage of the continuous roll that would be overcome. As previously submitted, Takanashi permits multiple colors to be provided even in the continuous roll form. See Fig. 4. Therefore, flexibility in color recording is still possible even if the cut form is not used. The Examiner's modifications are a product of hindsight rather than a rational technical basis.

Applicant would further note that Takanashi provides its continuous form of colorant having a polyester base (6 micrometers) and colorant (3 micrometers). The colorant layer thus has a thickness of 9 micrometers and is formed of waxes, pigment and lubricating oil. Col. 2, lines 46-54. By contrast, Koguchi relates to a thin donor sheet, preferably no greater than 2 micrometers thick. Col. 3, lines 40-45. The donor sheet is formed of thermoplastic resins. Col. 14, lines 54-64. Thus, the physical and chemical properties of the donor sheets in Takanashi and Koguchi differ from each other in view of the different recording techniques employed by each reference.

Additionally, in Takanashi, the thermal head 1 is abutted against a base layer 7a or a toner sheet to thermally transfer the layer 7b to an image receiving layer. To securely transmit heat from the head to the toner, the base layer is made extremely thin (approximately 6 micrometers). If the toner sheet of Takanashi has a cut sheet form, because of its thinness, it becomes difficult to uniformly superpose the toner sheet onto the image receiving sheet without

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/337,667

forming wrinkles. The same phenomenon would occur when the toner sheet is separated from the image receiving sheet, which can lead to deterioration in print quality. Therefore, the toner sheet in Takanashi must be in rolled toner sheet form. Therefore, Applicant submits that the rolled toner sheet and cut sheet of Koguchi are incompatible for this additional reason, and one skilled in the art would not attempt to replace Takanashi's toner form with that of Koguchi.

Applicant would submit that independent claim 1 is patentable over the combination of Takanashi and Koguchi for at least the reasons set forth above. The remaining claims are patentable based on their dependency.

With regard to claims 2 and 4, these claims describe a particular positioning of a cushion layer. To the extent Koguchi teaches a cushion layer, the final transfer of the image layer to the recording paper dictates that the cushion layer would not physically contact the recording paper as claimed.

With regard to claim 20, Koguchi does not describe the suction as claimed.

With further regard to the rejection of claim 5, Fujimura does not make up for the deficiencies of the primary combination.

In view of the above, Applicant submits that claims 1, 2, 4-17 and 19-22 are in condition for allowance. Therefore it is respectfully requested that the subject application be passed to issue at the earliest possible time. The Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

RESPONSE UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/337,667

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

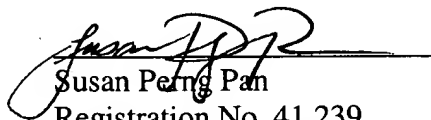
Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER


Susan Peing Pan
Registration No. 41,239

Date: October 15, 2003